

CLAIMS:

What is claimed is:

1. A method for applying tubular labels from a flattened tubular material supply to a series of containers, comprising the steps of:
 - a. extending flattened tubular material from the tubular material supply;
 - b. inserting a leading portion of the tubular material into a former having an internal contour adapted for radially opening the tubular material;
 - c. opening the tubular material;
 - d. separating the leading portion of tubular material from the supply of flattened tubular material;
 - e. conveying a container along a path to a position aligned with the opened tubular material; and
 - f. expelling the leading portion of tubular material from the former onto the container aligned therewith.
2. The method of claim 1, wherein the step of opening the tubular material comprises causing the tubular material to assume a substantially circular cross section.
3. The method of claim 1, further comprising controlling the length of flattened tubular material from the supply.
4. The method of claim 3, wherein the step of controlling the length comprises sensing a registration mark on the flattened tubular material and transmitting a signal in response thereto for stopping the step of extending the tubular material.
5. The method of claim 3, wherein the step of controlling the length comprises stopping the step of extending the tubular material in response to detecting a selected length thereof having been extended.

6. The method of claim 1, further comprising securing the selected length of tubular material in the former.
7. The method of claim 6, wherein the step of securing comprises activating a vacuum connected to an open port formed in the inner wall of the former.
8. The method of claim 1, further comprising receiving a crease of the flat tubular band in a guide formed in the former for maintaining the tubular material along a linear path.
9. An apparatus for applying a band from a continuous supply of flattened tubular material to each one in a series of containers, comprising:
 - a. a supply of tubular material in flat condition;
 - b. means positioned downstream of the supply for extending a selected length of the tubular material;
 - c. a cutter positioned downstream of the extending means;
 - d. a former positioned downstream of the cutter for receiving a cut length of the flat tubular material and radially opening the tubular material; and
 - e. means for sequentially positioning each one of a series of containers in axial alignment with and downstream of the former so that the cut length of opened tubular material is expelled from the former to circumferentially engage the one of the series of containers.
10. The apparatus described in claim 9, further comprising securement means for holding the cut length of open tubular material from falling through the former.
11. The apparatus described in claim 10, wherein the securement means comprises a port formed in the wall of the former and connected to a source of negative pressure.

12. The apparatus described in claim 9, wherein the means for extending comprises a driven first pair of rollers.
13. The apparatus described in claim 12, further comprising a second pair of rollers positioned upstream of the first pair of rollers.
14. The apparatus described in claim 9, further comprising a tubular material spreader positioned upstream of the cutter.
15. The apparatus described in claim 14, wherein the spreader is supported on the second pair of rollers.
16. The apparatus described in claim 9, wherein the former comprises a ramp leading to a hollow cylindrical portion.
17. The apparatus described in claim 16, wherein the ramp is formed with a gradual transition from the width of the flat tubular material to the width of the hollow cylindrical portion.
18. The apparatus described in claim 16, wherein the hollow cylindrical portion is substantially circular in cross section.
19. The apparatus described in claim 16, wherein the hollow cylindrical portion is substantially square in cross section.
20. The apparatus described in claim 16, further comprising a guide groove formed in the former and positioned to receive a crease of the tubular material as the tubular material enters the former.

21. The apparatus described in claim 9, further comprising a sensor for detecting the selected length of tubular material and transmitting a signal to the means for extending the length of tubular material.
22. The apparatus described in claim 9, further comprising means for cross folding the flat tubular material.
23. The apparatus described in claim 22, wherein the means for cross folding resides within the tubular material and comprises a first plate oriented in a first plane and a second plate oriented perpendicular thereto.
24. A method for applying tubular labels from a flattened continuous supply to a series of containers, comprising the steps of:
 - a. extending flattened tubular material from a supply;
 - b. spreading the flattened tubular material;
 - c. inserting a leading portion of the tubular material into a former having an internal contour adapted for radially opening the tubular material and further having a guide for maintaining the tubular material along a linear path;
 - d. opening the tubular material;
 - e. separating the leading portion of tubular material from the supply of flattened tubular material;
 - f. conveying a container along a path to a position aligned with the opened tubular material; and
 - g. expelling the leading portion of tubular material from the former onto the container aligned therewith.
25. A former for radially opening flat tubular material comprising:
 - a. a mouth portion extending from a wider entry to a narrower transition end;

- b. a cylindrical portion connected to the transition end of the mouth portion and extending cylindrically to an exit; and
 - c. a ramp extending from an entry to connect at an acute angle to the exit of the cylindrical portion.
26. The former as described in claim 25, further comprising a guide groove intersecting the mouth portion and oriented substantially perpendicular to the axis of the former.
27. The former as described in claim 26, wherein the guide groove resides along a line perpendicular to the ramp.
28. The former as described in claim 25, further comprising securement means.
29. The former as described in claim 28, wherein the securement means comprises a port open on one end thereof to the cylindrical portion of the former.
30. The former as described in claim 29, further comprising means for applying negative pressure through the securement means port.